

INSTALLATION AND SERVICE MANUAL

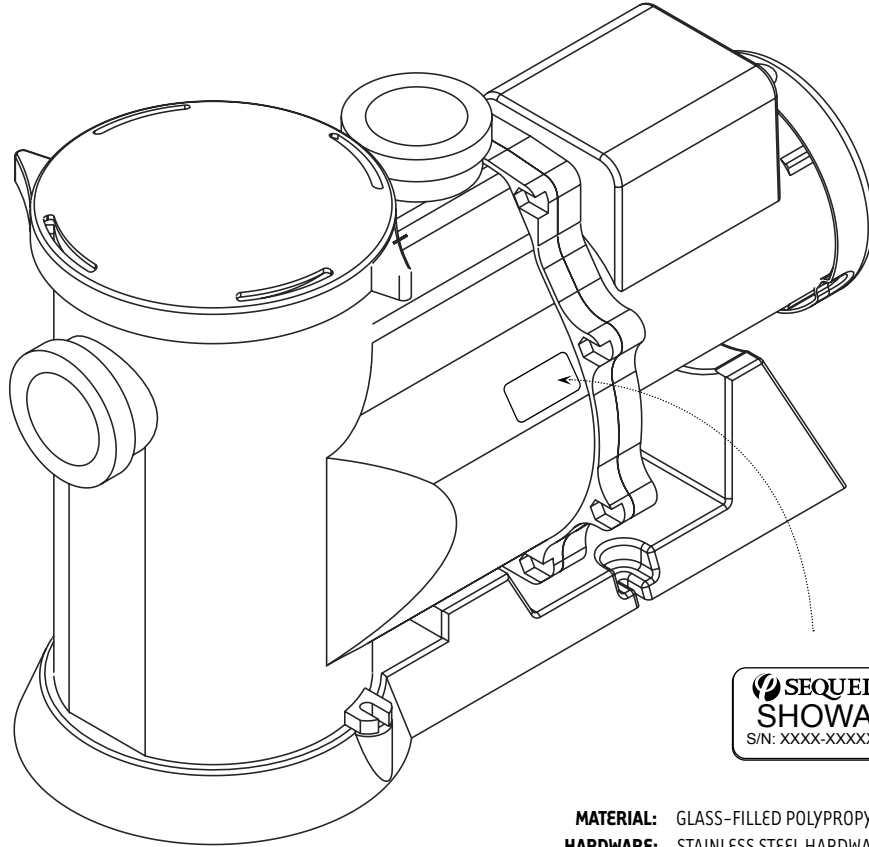
Please fill in for future reference:

MODEL: _____

SERIAL NUMBER: _____

DATE PURCHASED: _____

* Please fill out the warranty registration card
in this manual or online at www.mdminc.com



TYPE: SELF PRIMING CENTRIFUGAL
MOTOR: NEMA 56Y
HORSEPOWER: 1/3, 1/2 (1750 RPM)
PRIMER ALPHA: 2" FNPT INLET AND DISCHARGE WITH 2" & 2 1/2" SLIP ADAPTERS

MATERIAL: GLASS-FILLED POLYPROPYLENE
HARDWARE: STAINLESS STEEL HARDWARE
OPTIONS: SALTWATER SERVICE
ACCESORIES: SWING CHECK VALVES (1.5", 2", 3")

| MODEL | MEDIUM | HIGH |
|--------------------|------------|------------|
| INLET | 2" | 2" |
| DISCHARGE | 2" | 2" |
| MAX FLOW (gph) | 6800 | 7900 |
| MAX HEAD (feet) | 19' | 25' |
| MAX POWER (watts) | 346 | 480 |
| MAX CURRENT (amps) | 3.86 @ 115 | 4.77 @ 115 |
| VOLTS | 115 /230 | 115/230 |
| MOTOR HP | 1/2, 1/3 | 1/2, 1/3 |
| MOTOR TYPE | 56Y | 56Y |
| MOTOR ENCLOSURE | TEFC | TEFC |

WARNING: Please read completely before you install or operate your new pump! This is an external "out-of-pond" pump!
It is NOT submersible! Do NOT allow this pump to become submerged! Never run dry!



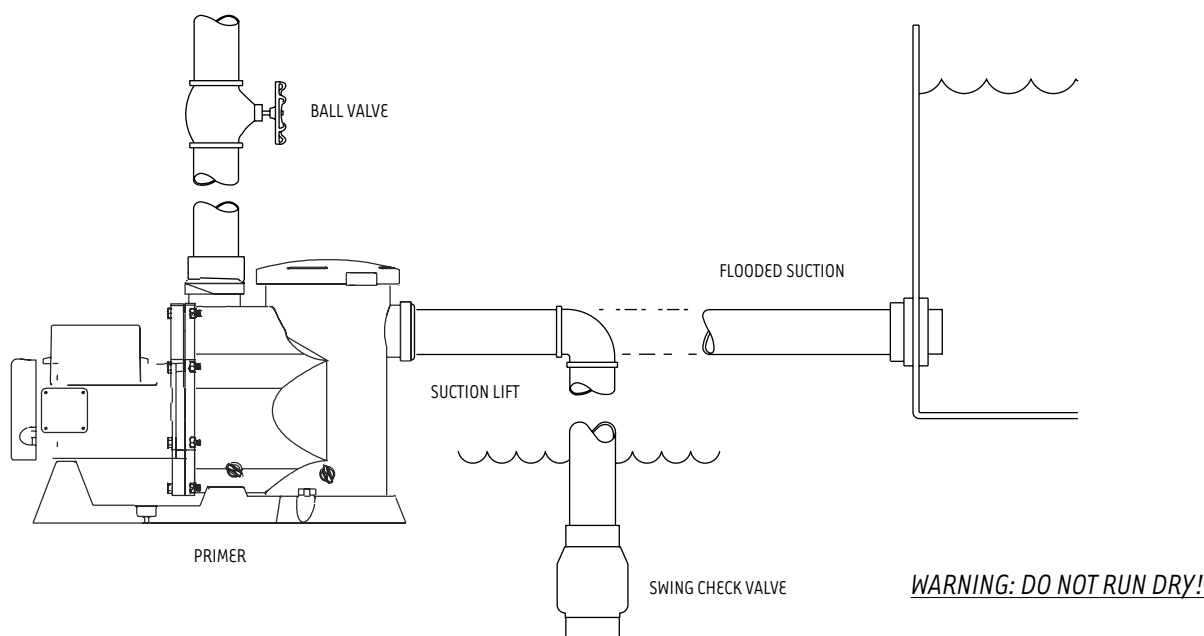
SEQUEL™ Showa

We congratulate you on your choice of the Sequel™ Primer Pump! It has been carefully designed using the advantages of today's technology and carefully constructed to give you the dependability of yesterday. To insure proper performance, we urge you to carefully follow the instructions in this manual. If you have any questions, call your nearest distributor or M.D.M. for assistance.

INSTALLATION

Please read carefully! When properly installed the Sequel™ Showa Primer will provide dependable trouble-free service.

1. Locate pump as near the source to be pumped as possible. A flooded suction situation is preferred. This pump is self-priming, however, there must be fluid in the pump for it to function properly. A check valve is recommended for non-flooded suction. (Figure 2)
2. Mount motor base to a secure, immobile foundation.
3. Use only plastic fittings on both the intake and discharge ports. Seal pipe connections with Teflon™ paste. These fittings should be self-supported and in neutral alignment with each port. (i.e. Fittings must not be forced into alignment which may cause premature line failure or damage to the pump volute.)
4. Never restrict the intake. Keep both input and discharge lines as free of elbows and valves as possible. Always use pipe of adequate diameter. This will reduce friction losses and maximize output.
5. This pump must not be run dry! We recommend a flooded suction installation. Please read carefully! When properly installed, the Sequel™ pump will provide dependable, trouble-free service.
6. Before starting pump, the priming pot must be filled with water.
7. For additional plumbing tips, review MDM's website: www.mdminc.com for pond plumbing and pump installation hints.



WARNING: ALWAYS SHUT OFF ELECTRICAL POWER BEFORE INSTALLATION AND/ OR SERVICING THIS PUMP.

ELECTRICAL HOOK-UP

1. Check that supply voltages match the motor's requirements.
2. Check motor wiring and connect, according to instructions on motor, to match supply voltage.
3. Power cord should be protected by conduit or by cable and be of proper gauge. It should be no longer than necessary.
4. Power should be drawn directly from a box with circuit breaker protection or with a fused disconnect switch.



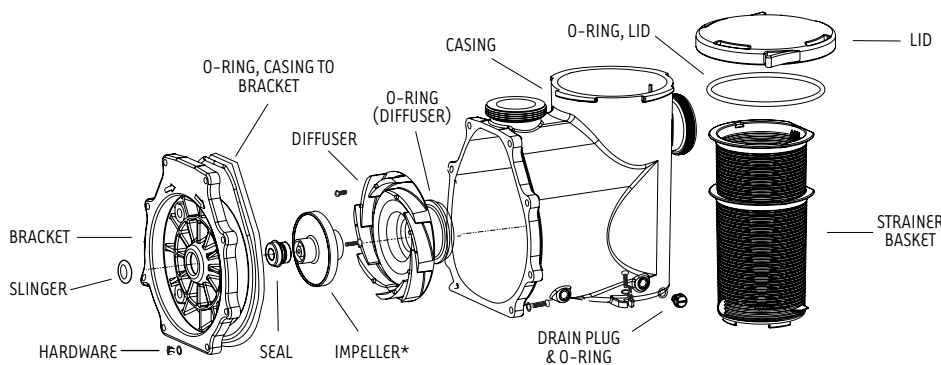
Proudly Made in the USA

Sequel™ ...NO equal

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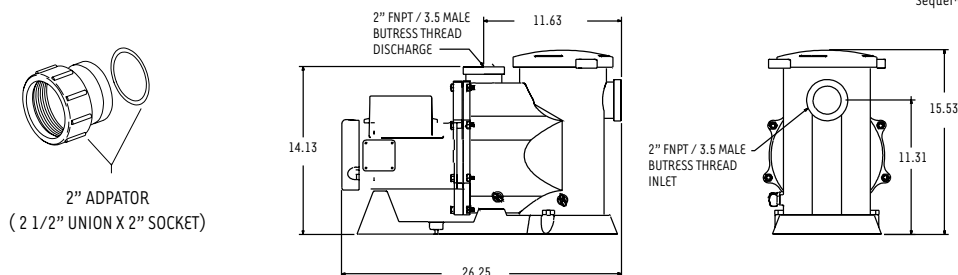
PUMP END ASSEMBLY

1. Clean and inspect all pump parts (O-ring, seal seats, motor shaft, etc.).
2. If replacing the seal, apply sealant in bracket bore hole and around seal case according to sealant instructions. We recommend using Gasgacinch®. Silicone sealant can also be used.
3. Press seal into bracket while taking care not to damage seal face.
4. Place slinger (rubber washer) over motor shaft and mount bracket to motor.
5. If replacing the seal, carefully lubricate the boot around ceramic piece and press it into the impeller hub making certain that the ceramic is in evenly- the sealing surface should be parallel with the impeller hub.
6. Apply CLEAN water to the carbon-graphite and seal seat sealing surfaces. Do not use silicon lubricants or grease!
7. Mount bracket to motor face.
8. Thread impeller onto shaft and install o-ring and screw! If required, remove motor end-cap and use a screwdriver on the back of motor shaft to prevent shaft rotation while tightening. Replace motor end cap.
9. Place diffuser over impeller and tighten allen bolts used to hold diffuser in place. Note: Be sure diffuser is in an upright position. (The word "top" appears on the diffuser as an indicator).
10. Seat O-ring on diffuser. Assemble diffuser to bracket with 2 allen screws.
11. Seat O-ring in bracket slot and assemble casing to bracket.
12. Install drain plugs with its O-rings in casing drain holes.



| DESCRIPTION | P/N |
|---------------------------------------|-----------------|
| SEAL | 1000.0414 |
| IMPELLER *DEPENDS ON MODEL | CONSULT FACTORY |
| O-RING, CASING TO BRACKET | 9000.061 |
| CASING | 9000.070 |
| DRAIN PLUG | 1000.110 |
| O-RING, DRAIN PLUG | E014B70 |
| DIFFUSER | 9000.120 |
| O-RING, DIFFUSER | 9000.121 |
| LID | 9000.779 |
| HARDWARE KIT | 9000.502 |
| SLINGER | 1000.010V |
| BRACKET | 9000.030 |
| O-RING, LID | 9000.777 |
| STRAINER BASKET | 9000.778 |
| 2" ADAPTOR (2 1/2" UNION X 2" SOCKET) | 9000.070-2 |

These part numbers are only for standard models within the Sequel™ Showa series.



DISASSEMBLY

1. Shut off power to motor before disconnecting any electrical wiring.
2. Close all necessary valves on inlet and discharge lines and drain the pump by removing both drain plugs. The water will drain faster if you loosen the lid.
3. Disassemble bracket-motor assembly from casing by removing the nuts and bolts. (The casing may be left in-line)
4. Unscrew the two allen bolts and remove diffuser. Diffuser may need to be pried off with a flathead screwdriver.
5. Remove screw and O-ring from front side of impeller. Screw is a left-handed thread and loosens in a clockwise direction.
6. Remove cap covering shaft at back of motor. Unscrew the impeller by twisting counter clockwise while holding the shaft with a large screwdriver to prevent shaft rotation.
7. Remove ceramic piece from impeller (if replacing the seal).
8. Detach bracket from motor.
9. Remove seal from bracket by pressing out from the back (if replacing the seal). Do not dig out from the front!



SEQUEL™ Showa

MAINTENANCE

Lubrication

Motor – Permanently Lubricated ball bearings – no service required.

Rotary Seal – Requires no lubrication after assembly.

**The pump must be drained before servicing or if stored below freezing temperatures. Periodic replacement of seals may be required due to normal carbon wear.*

| Symptom | Problem | Resolution |
|--------------------|------------------------|--|
| No Flow | Insufficient Prime | Prime system with water and purge all air from suction piping. Install check valve. |
| | Insufficient Power | Verify power supply and connection from panel to pump. Verify proper voltage. Some models are dual voltage (115/230). |
| | | Ensure valves are open. |
| | Flow Restriction | Ensure plumbing is clear, including suction strainers, check valves, etc. Verify check valve orientation and direction of permitted flow. Clean out leaves or other debris from basket strainer (if applicable). |
| | | Fix air leaks at fittings, connections, priming pot lid, etc. This typically occurs on the intake side. The priming pot lid o-ring can be lubricated with silicone grease. |
| | | Verify hydraulic compatibility: i.e. pump & pipe are sized for the system. |
| | Air leak | Fix air leaks at fittings, connections, priming pot lid, etc. This typically occurs on the intake side. The priming pot lid o-ring can be lubricated with silicone grease. |
| Low Flow | System Incompatibility | Verify hydraulic compatibility: i.e. pump & pipe are sized for the system. |
| | Air leak | Fix air leaks at fittings, connections, priming pot lid, etc. This typically occurs on the intake side. The priming pot lid o-ring can be lubricated with silicone grease. |
| | System Incompatibility | Verify hydraulic compatibility: i.e. pump & pipe are sized for the system. |
| | Insufficient Power | Verify power supply and connection from panel to pump. Verify proper voltage. Some models are dual voltage (115/230). |
| | | Ensure valves are open. |
| | Flow Restriction | Ensure plumbing is clear, including suction strainers, check valves, etc. Clean out leaves or other debris from basket strainer (if applicable). |
| | | Prime system with water and purge all air from suction piping. |
| | Cavitation | Verify airtight plumbing on the suction plumbing especially fittings! Clean out leaves or other debris from basket strainer (if applicable). Increase pipe size where possible. Decrease suction pipe length, reduce the number of elbows, etc. Verify hydraulic compatibility: i.e. pump and pipe are sized for the system. |
| | | |
| Sporadic Operation | Insufficient Power | Verify power supply and connection from panel to pump. Verify proper voltage. Some models are dual voltage (115/230). |
| | Poor Ventilation | Ensure adequate airflow over motor to prevent overheating. |
| | | Verify airtight plumbing on the suction plumbing especially fittings! Clean out leaves or other debris from basket strainer (if applicable). |
| Excessive Noise | Cavitation | Increase pipe size where possible. Decrease suction pipe length, reduce the number of elbows, etc. Verify hydraulic compatibility: i.e. pump and pipe are sized for the system. |
| | | Verify power supply and connection from panel to pump. |
| | | Verify proper voltage. Some models are dual voltage (115/230). |
| | | Ensure valves are open. |
| | Insufficient Power | Ensure plumbing is clear, including suction strainers, check valves, etc. |
| | | Verify check valve orientation and direction of permitted flow. |
| | Flow Restriction | Ensure plumbing is clear, including suction strainers, check valves, etc. |
| | | Verify check valve orientation and direction of permitted flow. |

MDM INCORPORATED LIMITED WARRANTY

This product is warranted to the initial purchaser to be free of defects in materials and workmanship at the time of initial purchase and for a period of 4 years for Sequel™ products. In the event this product malfunctions within three years from the date of purchase, the sole obligation of MDM, Incorporated (hereinafter referred to as MDM) will be to repair the unit or replace with an equivalent new or factory refurbished unit at MDM's discretion, subject to the following conditions:

- The malfunction is proved attributable to a defect in materials or workmanship, including repairs performed under this warranty. Malfunction for any other reason-including but not limited to misuse, negligence, accident, or tampering with parts, incorrect wiring, or improper installation-will not be remedied under this warranty.
- MDM specifically does not guarantee chemical compatibility, and expressly does not warrant units from any problems caused by chemical attack or failure due to incompatibility of fluid being pumped with pump materials of construction.
- Purchaser shall also retain and present to MDM evidence of purchaser's compatibility tests under actual operating conditions.
- All warranty repairs must be performed by MDM or an MDM authorized company. Purchaser must retain the purchase receipt and present it with this certificate as proof of ownership and entitlement to warranty repairs. Unauthorized repairs will not be compensated by MDM, and are not the responsibility of MDM, and if such repairs damage the product, such damages are not remedied under this warranty.
- Purchaser shall bear all shipping, packing and insurance costs and all other costs, excluding labor and parts necessary to effectuate repairs under this warranty.
- Periodic check-ups are not covered by this warranty.

6. This warranty is in lieu of all other express warranties which now or hereafter might otherwise arise with respect to this product. Any and all limited warranties, including the warranties of merchantability and fitness for particular purpose, shall have no greater duration than the duration period of the express written warranty applicable to this product, and shall terminate automatically the expiration of such duration period. Some states do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you. No action shall be brought for breach of any implied or express warranty after one year subsequent to the expiration of the duration period of the express written warranty.

7. Incidental and consequential damages caused by malfunction, defect, or otherwise, and with respect to breach of any express or implied warranty, are not the responsibility of MDM, and, to the extent permitted by law, are hereby excluded both for property damage and, to the extent not unconscionable, for personal injury damage. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you.

8. This warranty does not apply to any malfunction arising out of any application of this product other than normal use, unless such application is upon request specifically approved in writing by MDM.

9. The provisions of this warranty are severable and if any provision shall be deemed invalid, the remaining provisions shall remain in full force and effect.

10. Rights under this warranty are not assignable without the express prior consent in writing by MDM and, regardless of the terms of such consent in writing, such assignee shall have no greater rights than his assignor had against MDM.

11. After the warranty period, units requiring maintenance or repair may qualify for our exchange program. The exchange program provides an opportunity to repair/replace your pump and/or motor at a nominal charge. Please refer to the Exchange Policy or contact MDM for details and current pricing.

Name: _____
Address: _____
City: _____ State: _____ Zip: _____
Model: _____ Serial Number: _____
Date purchased: _____ Where purchased: _____



MDM INCORPORATED

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WWW.MDMINC.COM

Activate your warranty by filling out this form and mailing to MDM Inc. or by registering on-line at www.mdminc.com

Gasgacinch® is a registered trademark of Porter Manufacturing. Noryl® is a registered trademark of the General Electric Company.
Teflon® is a registered trademark of DuPont Company. Sequel™ is a trademark of MDM Incorporated.
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